



## Exotic Newcastle Disease Response Overview

Jack Shere and Annette Whiteford

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### *Past Experience*

- ♦ Exotic Newcastle Disease in California Commercial Poultry
  - 1971-1973 (30 years ago)
  - 45,000 square miles quarantined
  - 11.9 million birds destroyed
  - \$56 million federal dollars
  - 3,177 task force personnel
  - 3 years to eradicate

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### *1971 - 1973 END*

- ♦ Egg City
  - 3 million chickens
  - 90,000 birds/house



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### ***Past Experience***

- ♦ Exotic Newcastle Disease in Florida
- ♦ Outbreak occurred in 1980
- ♦ Over 8,000 commercial pet birds affected
- ♦ Resulted in the destruction of 30,307 birds
- ♦ Involved 23 states

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### ***Past Experience***

- ♦ Exotic Newcastle Disease in Mexico
- ♦ Occurred in 2000
- ♦ Commercial Poultry
- ♦ Resulted in the destruction of 13.6 million chickens

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### ***Today's Situation***

- ♦ Exotic Newcastle Disease initially spread in backyard pet and hobby chicken populations
- ♦ Challenges:
  - Urban Setting
  - Cultural Barriers
  - Defining Population at Risk
  - Disease Detection (Reporting)
  - Disease Cross-cut Allied Industries (Commercial Pet and Exotic Birds, Ostriches, Poultry, Processors, Distributors, Feed Mills, Rendering)



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### ***Today's Situation***

- ♦ **Advances in Current Response Capability**
  - Planning
  - Interagency Cooperation (resources, authority)
  - Incident Command System
  - Information Management (GIS, GPS, Internet, EMRS)
  - Laboratory (collaboration, technology, PCR)

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### ***Interagency Cooperation***

- ♦ Approximately 11 Federal Agencies
- ♦ 18 California State Agencies
- ♦ 6 Nevada State Agencies
- ♦ 3 Arizona State Agencies
- ♦ Texas and New Mexico State Agencies
- ♦ Numerous county, city, and local groups
- ♦ Numerous private stake holders
- ♦ Colorado River Indian Tribe
- ♦ Secretaria de Fomento Agropecuario, Baja, Mexico
- ♦ SAGARPA

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### ***Incident Command System***

- ♦ **Common Terminology and Structure**
- ♦ **Management by Objectives**
- ♦ **Incident Action Plan**
- ♦ **Establish Personnel Accountability**

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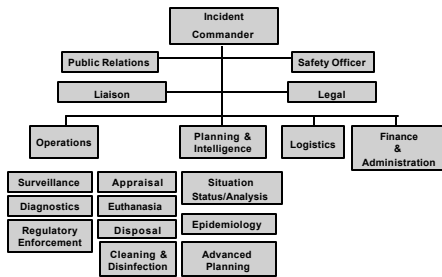
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## END Incident Command Functions



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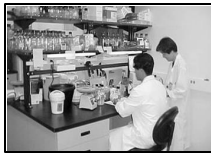
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From 7 to 21 days to...

24 to 48 hours



**PCR!!**

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## Today's Situation

- ♦ Total population at risk in California:
  - Backyard poultry estimates
    - Game Fowl – 3 million (50,000 to 60,000 owners in California)
    - Other backyard and pet or exotic birds
  - Commercial poultry
    - Layers – 24 million
    - Broilers – 45 million (on farms at any one time)
    - Turkeys – 8 million

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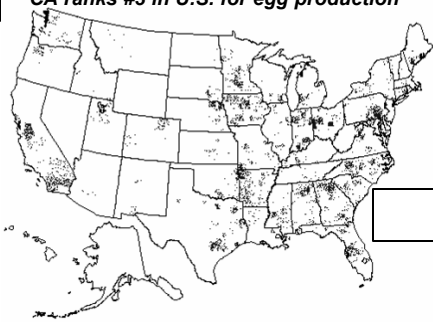
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**CA ranks #3 in U.S. for egg production**



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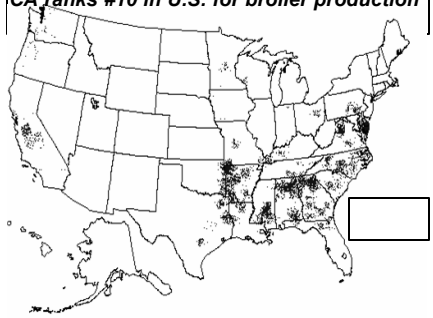
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**CA ranks #10 in U.S. for broiler production**



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**CA ranks #6 in U.S. for turkey production**



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## California Index Case

- ♦ October 1, 2002
- ♦ Backyard chickens in Compton, Montebello (Los Angeles County), and Norco (Riverside County)

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## Situation Chronology

- 9/28/02 Disease Investigation Began
- 9/30/02 State Premises Quarantines (Movement)
- 10/1/02 Additional CDFA and USDA Support
- 10/3/02 Statewide Quarantine (Exhibition)
- 11/13/02 State Regional Quarantine (Movement) (Los Angeles, Riverside, San Bernardino)
- 11/21/02 (Mirrors State Quarantine)

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## Situation – October 1, 2002



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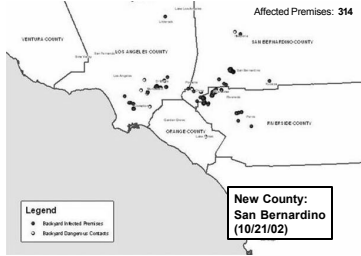
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## Situation – Affected Premises California - November 30, 2002



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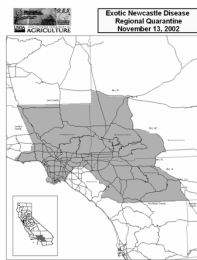
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## Initial Regional Quarantine November, 2002



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03M-0212-30 Whitakerford

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Courtesy: Dr. Senties-Cue

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**Outreach and Education**

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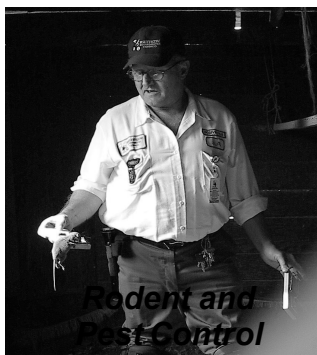
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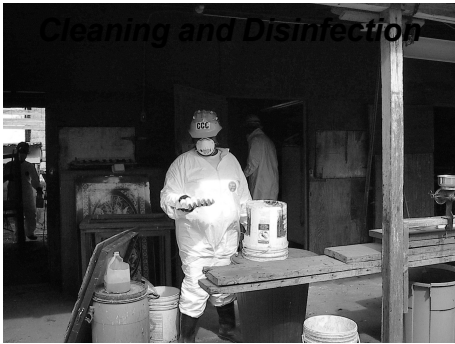
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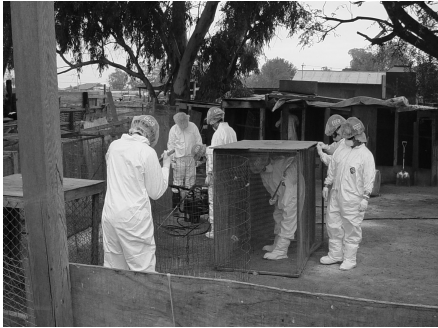
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**Typical Large Backyard Being  
Cleaned and Disinfected**

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**Oversight**

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*Example of a Larger Breeder Flock*

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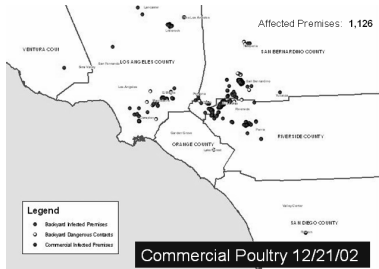
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### Situation – Affected Premises California - December 31, 2002



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### ***Situation Chronology***

- 12/21/02 Commercial Flock Confirmed Positive**
- 12/30/02 State Quarantine Expanded (Orange, Ventura, San Diego)**
- 1/7/03 State and Federal Emergency**
- 1/7/03 Federal Quarantine Expanded (Buffer) (Santa Barbara, Imperial, Riverside, San Bernardino)**

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***Emergency Declaration***



***Additional Resources***



***Enhanced Eradication***

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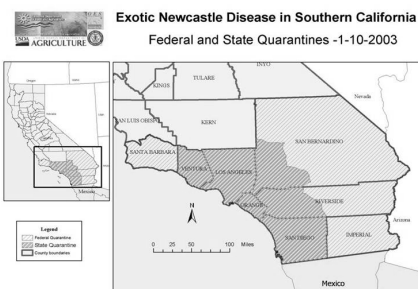
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# ***Additional Resources***

- ♦ **California Department of Forestry and US Forest Service assist in incident management**
- ♦ **Multiple Incident Commands and Area Command**
  - Manageable “span of control”
  - Reduce driving time
  - Enhance efficiencies of operations

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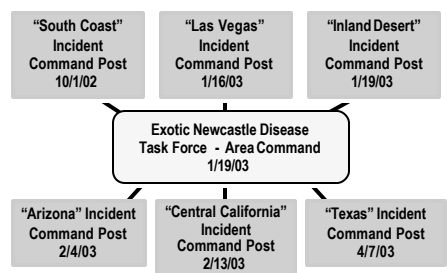
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# ***Exotic Newcastle Disease Task Force Command Structure***



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## ***Enhanced Eradication Efforts***

### **Prevent Further Spread of Disease!!**

- **Biosecurity**
- **Active Surveillance**
- **Outreach**
- **Movement Controls**

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## ***Enhanced Commercial Poultry Biosecurity***

- **Company Liaison**  
*(Review practices, Assist with implementation, On-going Oversight)*
- **Truck Washes/Disinfection Stations**  
*(Dedicated, on-site equipment; Mobile units; Strategically located facilities)*
- **Commercial Advisory Groups**
- **Training Programs**  
*(Training for bilingual employees, allied industry, utility companies, egg inspectors, vector control, etc.)*

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## ***Expanded Active Surveillance Commercial Producers***

- ◆ **Commercial Poultry**
  - Compliance Agreements/Permitting (testing protocols)
  - Swab, Mortality, Slaughter
- ◆ **Commercial Pet Birds**
  - Compliance Agreements/Permitting
  - Quarantine Stations, Holding Facilities
- ◆ **Northern California Program (High Risk Flocks)**
- ◆ **Surveillance Compliance**
  - Federal and State authority
  - Industry/Market Pressure

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## ***Expanded Active Surveillance Pet and Hobby Birds***

- ♦ **High Risk Populations Targeted**
  - Backyard poultry, especially game fowl
  - Proximity to commercial poultry
  - All game fowl seized by law enforcement
- ♦ **Permitting**

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## ***Expanded Active Surveillance Pet and Hobby Birds***

- ♦ **Northern California**
  - County Cooperative Agreements (10 Counties)
    - ♦ Components: Surveys around commercial poultry and in high risk neighborhoods; observation at swap meets and auctions; outreach
  - Incident Command Post
    - ♦ 10/1/02 – 9/1/03 approximately 350 diagnostic calls
    - ♦ Completed surveys around commercial poultry in 5 counties
- ♦ **National Surveillance**
  - Targeted

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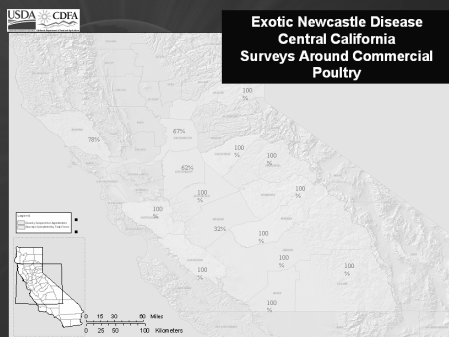
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### ***Movement Control***

- ♦ Quarantines
- ♦ Compliance Agreements
- ♦ Permitting
- ♦ Check Points
- ♦ Signage, Rest Stops
- ♦ Enforcement
  - (Investigative and Enforcement Services, CDFA Investigators, California Highway Patrol, Local Law Enforcement, Attorney General, Office of General Counsel)

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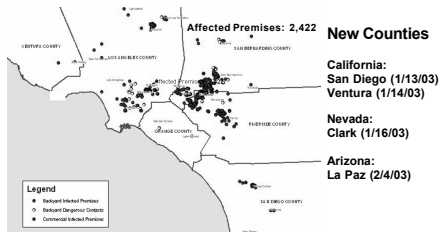
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### ***Situation – Affected Premises California – March 30, 2003***



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### ***Situation Chronology***

- 1/17/03** Federal Quarantine Imposed,  
Nevada (Nye, Clark)
- 2/7/03** Federal Quarantine Imposed,  
Arizona (Mohave, La Paz,  
Yuma)

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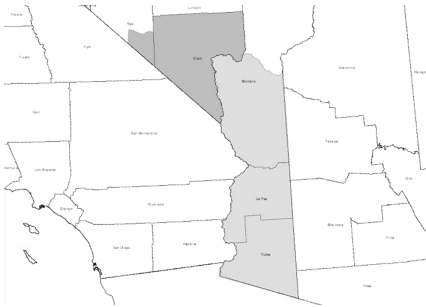
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### Nevada Arizona Quarantine Pre 5/8/03



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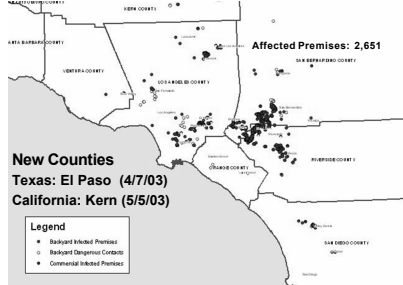
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### Situation – Affected Premises California – May 31, 2003



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### ***Situation Chronology***

- 4/11/03 Federal Quarantine Imposed**  
(Texas - El Paso, Hudspeth)  
(New Mexico - Luna, Dona Ana, Otero)
- 5/8/03 Federal Quarantine Lifted**  
(Arizona, Nevada)
- 5/13/03 Federal Quarantine Expanded**  
(California - Kern)

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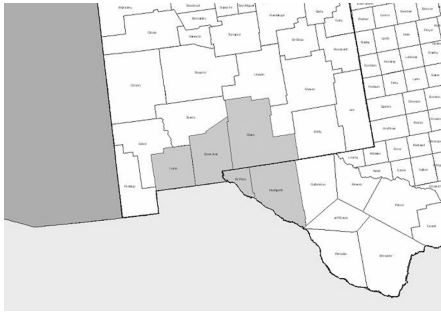
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### ***Texas New Mexico Quarantine***



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### ***Federal Regional Quarantine***

***California Nevada Arizona Quarantine - May 2002***



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***Pet and Hobby***  
*(Includes Backyard Poultry)*  
**September 1, 2003**

- ♦ Premises surveyed > 200,000
  - (75,397 identified with poultry in target areas of California)
- ♦ Cumulative premises quarantined = 19,056
  - (18,344 in California)
- ♦ Cumulative positive or dangerous contact = 2,671
  - (2,491 in California)
- ♦ Cumulative birds depopulated = 149,247
  - (144,226 in California)
- ♦ Premises currently under quarantine = 179

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***Commercial Poultry***  
**September 1, 2003**

- ♦ Commercial premises identified = 806
  - 154 within the Regional Quarantine
  - 652 in Northern California
- ♦ Commercial premises under active surveillance = 103
- ♦ Last positive commercial premises = 3/26/03
- ♦ Cumulative infected premises = 21
- ♦ Cumulative dangerous contacts = 1
- ♦ Cumulative birds depopulated = 3,021,815
- ♦ Cumulative spent hens destroyed = 1,244,838

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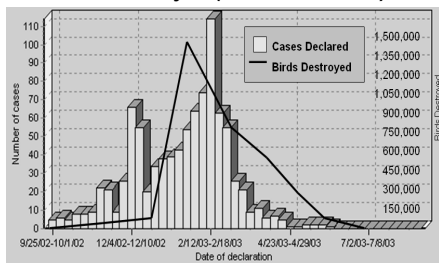
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***END Cases Declared and Associated  
 Birds Destroyed (9/25/02 – 8/15/03)***



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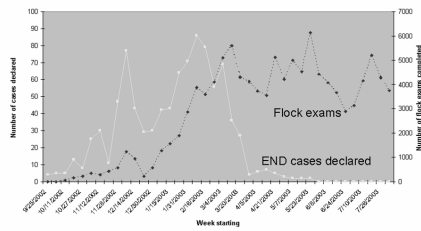
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Comparison\* of the weekly number of END cases declared versus flock exams completed, southwestern US, 9/25/2002 to 8/10/2003



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## End Stage Priorities

- ♦ Last Case Finding
  - (Last END Positive Case – May 31, 2003 in LA County)
- ♦ End Stage Surveillance / Quarantine Release
- ♦ Institutionalize Change
  - (Biosecurity, Reporting, Vaccine, Interagency Cooperation)

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## Quarantine Release

Premises quarantine release

Area quarantine release

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### ***Premises Quarantine Release***

- ♦ Released in groups – Look at neighborhoods and movement of people and birds
- ♦ All affected premises cleaned and disinfected and no unauthorized repopulations
- ♦ All affected premises in area must be eligible for release

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### ***Premises Quarantine Release***

- ♦ Sufficient sampling of high risk premises within an area to assure absence of disease
- ♦ Laboratory results final and negative
- ♦ Time frame: 1 day to 6+ weeks

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### ***Area Quarantine Release***

- ♦ Grid System
- ♦ Zones
- ♦ Statistical Sampling

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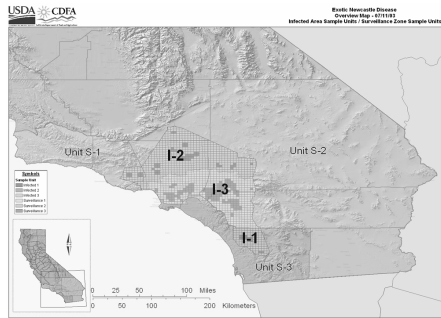
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### ***Procedure for Active Surveillance***

- ♦ Identify areas with poultry
  - Eradication activities
  - Information from animal control, feed stores, law enforcement, agriculture commissioners, zoning, etc.
  - Confirmation via scout trips
- ♦ Conduct census to identify individual premises with birds
- ♦ Collect samples
  - 95% confidence of detecting disease at a 0.5% prevalence
  - Geographic distribution within unit
  - Poultry considered highest risk species

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### ***Procedure for Active Surveillance***

- ♦ Commercial Operations
  - Report increases in mortality or clinical signs consistent with END
  - Weekly samples (mortalities or swabs)
  - Repopulated Premises submit and sample all mortality for 45 days

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## ***Status***

- **Surveillance Zones and Infected Zone 1:  
Released August 1, 2003**
- **Infected Zone 2 and 3:**
  - Census and testing complete in  
back yard flocks
  - All commercial poultry sampled weekly with  
last 2 weeks completed entirely by task force  
personnel
  - Documentation complete
  - Federal and State regional quarantines  
released in September, 2003

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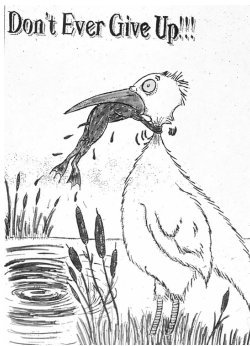
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## ***Institutionalize Change***

### **Avian Health and Mitigation Group**

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### ***Avian Health and Mitigation Group***

**Mission:** Protect domestic poultry production

**Goal:** Mitigate risks associated with an introduction of non-endemic poultry diseases by promoting poultry health programs within target high-risk populations in the United States

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### ***Avian Health and Mitigation Group***

**Timeframe:**

- ♦ 2003-2004: Pilot programs in California in mitigation phase of emergency response to END
- ♦ 2004: Expand successful programs to other states and countries (Mexico)
- ♦ 2004-2005: Seek permanent resource allocation

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### ***Cooperative Effort***

- ♦ USDA VS – 30 additional staff approved
- ♦ California Department of Food and Agriculture
- ♦ Poultry industry representatives
- ♦ University Extension
- ♦ California Animal Health and Food Safety Lab
- ♦ Allied industries – feed companies, etc.
- ♦ Local agencies and community leaders
- ♦ Others....

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### ***Key Elements***

- ♦ Education and Outreach
- ♦ Surveillance
- ♦ Biosecurity
- ♦ Research

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### ***Organization of Efforts***

- ♦ Categories
  - Commercial
  - Pet and Hobby (Backyard)
  - Resource Development Support
- ♦ Geographical
  - Northern California
  - Southern California
  - Border States with Mexico

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### ***Major Commercial*** ***(Layers, Broilers, Turkeys)***

- ♦ Northern California Coordinator
- ♦ Southern California Coordinator
- ♦ Activities
  - Employee training
  - Surveillance systems
  - Movement coordination
  - Biosecurity
  - Others....

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### ***Minor Commercial Segments***

- ♦ Minor Species – squab, ducks, etc.
  - (Other species raised for food)
- ♦ Pet Bird Industry and Small Animal Veterinarians
- ♦ Game Birds - Hunt Clubs
  - (Fish and Game coordination)
- ♦ Custom Exempt/CA Licensed Plants

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### ***Pet and Hobby (Backyard)***

- ♦ Game Fowl
  - Health Assurance Programs/ Certification
  - Surveillance
  - Biosecurity
- ♦ Animal Control and Humane Organizations
  - Surveillance (Testing prior to adoption)
  - Training and Education

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### ***Pet and Hobby (Backyard)***

- ♦ Swap Meets and Auctions
  - Surveillance – END and AI
  - Education and information dissemination
  - Develop regulations
- ♦ Racing Pigeons
- ♦ Fairs, shows and youth exhibits
  - Assist CDFA Fairs and Exhibitions
  - Health checks

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### ***Pet and Hobby (Backyard)***

- ♦ **Community Outreach**
  - Northern and Southern California Coordinators
  - Agricultural Commissioners
  - Community Leaders
  - Feed Stores, Pet Stores
- ♦ **Border States Coordinator**
  - Cooperative Efforts with Baja, Other States
  - Smuggling, Imports, etc.

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### ***Resources and Support***

- ♦ **Resource Development / Outreach**
  - Develop training videos, feed bag information, calendars, etc.
- ♦ **Vaccination**
  - Community outreach/information
  - Assist with research evaluation
- ♦ **Research**
  - CDFA, USDA, ARS, Universities, Extension Services

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### ***Personnel***

- ♦ **Federal Employees** – 5,352
- ♦ **State and Local Employees** – 2,338
  - (California, Nevada, Arizona, New Mexico, Texas)
- ♦ **Most returned for multiple rotations with some returning as many as 12 times**



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